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PHOTOGRAPHY

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LEICA PHOTOGRAPHY

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LEICA M5

A review by Geoffrey Crawley FRPS, DGPh

Condensed from *The British Journal of Photography*

The new M5 differs in size, shape, layout and, to some extent, operation from earlier M models, but the main new added feature is a through-the-lens exposure meter.

General Construction

The M5 is 6.06 inches in length, 3.46 inches in height and 1.30 inches in width. The weight is 24.7 oz. In comparison with the M4 these dimensions represent a .63 in. increase in length, a .47 in. increase in height. The M5 weighs 3.53 oz. more than the M4, but if the Leicameter is clipped on to the M4 to provide a comparison, then the M5 is .88 oz. heavier than the M4. In fact the actual top plate of the M5 is only some .16 in. higher than that of the earlier Ms' but the accessory shoe and film speed setting device are both raised above the top plate level.

The height difference will explain the gap between the Visoflex III fitting and the earlier Ms to puzzled users and which shows how long the M5 basic shape has been established—although presumably the built-in meter always envisaged, eventually became a through-the-lens meter. The quarterdeck has virtually disappeared and only remains vestigially to accommodate the shutter speed setting dial, which is thus flush with the remainder of the top plate.

The most noticeable difference is really in the length of the camera and this is the main reason for the apparent increase in bulk.

The increase in body length is virtually entirely on the lefthand side of the camera. It appears to be mostly due to the incorporation of a built-in meter system and the battery compartment.

A fundamental departure with the new Leica involves the neckstrap attachment. From the beginning, 35mm cameras have been held by means of eyelets on either side of the body. The M5, however, has two heavy-duty strap lugs both on the left side of the camera. The apertures are wide enough to take a strap just less than a ½ inch in width.

The first sight of a camera dangling sideways by one end over the shoulder or round the neck provides a negative reaction, but only very brief actual use is required to prove the logic of the new arrangement. Most importantly, the right end of the camera is left completely free of all impediments to the hand operating it. There is no possibility of the lever-wind becoming entangled with the strap or the strap getting in the way of any of your fingers. Photographers who festoon themselves with a number of cameras may find the arrangement less convenient, but this is a question of personal preference.

The feel of the camera in the hand is entirely Leica-like and its controls work with the same fluidity of engineering excellence that is the envy of other manufacturers. The increase in length does not seem to be disconcerting, although earlier M models definitely feel smaller when handled after the M5.

The M5 will be available in two finishes: in the usual satin chrome and in black chrome. It will be the first camera on the market to be available in a black chrome rather than an anodized black finish. Previous Leica models available in a black finish have been enamelled and after a period of time this has worn off to reveal the brass beneath. The black chrome on the M5 is as tough and hard-wearing as the more familiar silver and satin chrome finishes, so the camera should retain its color indefinitely.

Finally, in connection with the general appearance, it is interesting to note that the 50mm f/1.2 Noctilux, which rather over-powers an earlier M body, looks just right on the M5. The 50mm f/2 Summicron looks a bit small, but the 50mm f/1.4 Summilux is precisely in scale.

Top plate controls

Frame counter. The frame counter has been moved from close to forward on the radius of the earlier Ms' right side to the rear—or from 2 o'clock to 5 o'clock. This may have been necessitated by the increased diameter of the shutter speed setting dial, but it is in fact more conveniently placed here for reading. It is now topped by plain glass instead of the former condensor lens and the index pointer is now, more logically, on the operator's side of the counter dial instead of above it. The counter dial remains indexed for each frame with engraved numerals for the half decades. The frame counter zeros when the baseplate has barely been eased up for removal.

Lever-wind. Although the shank differs slightly in profile, having a rather narrower elbow, the lever-wind on the M5 can be regarded as virtually identical to that on the M4. The camera is easy to use by either left or right-eyed photographers.

Shutter release. This remains set in the hub of the lever-wind and is threaded for standard taper-fitting cable release. There is little or no change in the feel of the shutter release button when depressed. However, there is a notable change in the function of the shutter release which influences this operation. This is because the initial travel of the release button swings the through-the-lens meter-cell arm out of the optical path into a recess in the well of the camera dark chamber. The shutter will only fire after the cell arm has moved. For this reason, the shutter release should not be pretensioned to make an exposure while taking a meter reading.

The meter reading cell is returned to the reading position as the lever-wind is cycled and this action also switches on the meter.

Shutter speed dial. A major functional change on the M5 is that the shutter-speed setting wheel is now co-axial with the lever-wind and the shutter release button. With the earlier Ms, it was located separately to the left near the accessory shoe and the clip-on exposure meters locked on to it. On the M5, the wheel, which has a finely milled edge, is large in diameter, 1.06 in., and projects over the forward edge of the camera top-plate. It is only necessary to push the forefinger along the forward edge of the camera top-plate to operate the shutter speed setting and this is facilitated by the absence of a neckstrap fitting on the right side of the camera. The click stop wheel has just the right tension and comes to a full stop at either end on the scale.

The numerals, owing to the larger diameter setting wheel, are very legible but the calibration is unconventional. The M5 shutter is speeded ½ to 1/1000 second and this range is calibrated with click stops. After the ½ second, the dial is further calibrated with a range of 'B' settings from 1 to 30 seconds over which the setting wheel moves smoothly without click stops. These settings act as a calculator when taking a meter reading on a subject requiring a time exposure. The shutter speed setting also appears at the end of the match needle system illuminated strip below the viewfinder, as will be discussed later. Here, these long exposures—1, 2, 4, 15, 30 seconds—also show, but are preceded by the letter 'B'.

Accessory shoe. The M5 has an accessory shoe with a 'hot' or center contact flash fitting. Incidentally, the camera's serial number appears on the right arm of the accessory shoe fitting. An 'X' is engraved just forward of the accessory shoe to remind the user that the center contact provides synchronization for this type for electronic flash, AG-1, AG-3 and flashcubes. The circuit for this hot shoe fitting is independent of the other X contact—a standard 3 mm type as on the M4—which lies with the M contact on the back of the camera.

The two contacts on the back of the camera are now closer together, .39 in. apart instead of .67 in. A great boon will be the fact that the two contact caps are now linked by a thin arm of plastic, so that when one is removed it remains attached to the other. This should prevent the hitherto almost inevitable loss of these small items.

Film speed setting. The final feature on the top-plate is the film speed setting device for the exposure meter. This is just to the left of the accessory shoe and immediately forward of the film plane index mark which has been added to the Leica with the M5. The setting is changed merely by turning this wheel with the finger tip through click third stops against fair inertia. The DIN window has equal prominence on the left with the ASA window on the right of the setting wheel and the calibrations are bold and easily read. The ASA settings are from 6-3200 in click ⅓ stops indexed on the doubling series and the DIN range is from 9-36 in ⅓ stops. The setting mechanism is to be commended, because it is large and easy to handle.

The Shutter

On the M5 shutter speeds are set on the dial as described above and the speed set is indicated at the extreme left end of the illuminated match-needle strip along the bottom end of the viewfinder. The speeds available are ½ to 1/1000 second. The omission of the 1 second has enabled Leitz to improve the shutter design and provide an important new facility: over its range, settings are continuously variable with exception of a small gap between 1/40 and 1/50 second, the latter is the X synchronization speed marked by a dot, before the 1/60 setting.

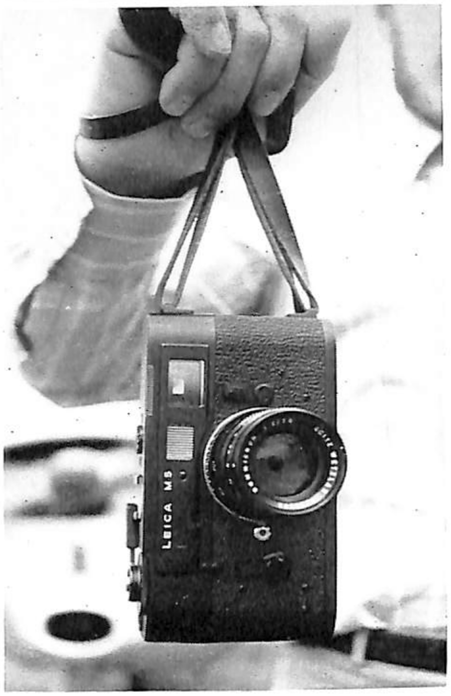
Meter needle and index pointer may be accurately aligned for exposure purposes either by moving the lens aperture ring or shutter speed setting dial. The 1 second setting will not be greatly missed and the advantage of the continuously variable shutter should be considered an advantage outweighing its loss. After the ½ second, the speed dial can be moved over the calibrated range 1-30 seconds in order to align the match-needle system, should the lighting conditions or the lens aperture at which it is desired to work require exposures of this length. The shutter remains set on 'B' over this range. *It must be remembered that these settings are meter readings only and that reciprocity failure must be taken into account for exposures over this span.* The material of the shutter is the same rubberized cloth used in earlier Leicas.

Baseplate

As with all M Leicas, the M5 remains a base-loading camera with removable back flap. The M5 baseplate and its functions are, however, quite different. It differs, naturally, in length and shape, following the body shape. Also the opening key is now at the right end, as the camera is operated, and the location occupied by the base unlocking key on the earlier M cameras, now houses the fold-away film rewind crank.

To retain the same position for the tripod bush, .59 in. in from the right end, it has been necessary to make this coaxial with the base-plate unlocking key, and it appears to be very soundly constructed. The coaxial siting does however remove one useful facility. Since Leicas are moored to a tripod or set-up by a bush at the right end of the baseplate, the left end usually projects far enough to allow access to the base unlocking key. To reload the camera without disturbing its alignment it has been possible to undo this key and ease the camera body off the right end of the baseplate, returning it after reloading. Since the fold-away rewind crank now occupies the former location of the baseplate key, it is still possible to rewind the film with the camera screwed to a support, but it must be removed to load in another film.

Leica M5 with 50mm Summilux f/1.4 lens.



The holders for the strap of the Leica M5 are on one side.

The rewind crank is an extremely neat device, strongly built with a rotating finger grip on the crank and a 1:1 operation. A ratchet restricts the movement of the crank to the rewind direction as soon as the crank handle is folded out ready for use. When folded away, the assembly will revolve in either direction so that correct film transport can be observed by watching it turn. Were the camera to be used with an ordinary type ever-ready case, it would mean that the rewind could not be cranked without removal of the camera from the case, nor could turning of the rewind crank be observed as a check on film loading and transport. As has been noted, these factors have been taken into account by the drop-down design of the case.

There is one restriction encountered with the rewind crank mechanism on the M5, however. 35mm camera users are wont to check whether a film is loaded in by turning the rewind knob or crank anti-clockwise. This is less conveniently done on the M5, because the rewind assembly has to be moved by the finger tips with the crank folded away, since it will only move clockwise once the crank arm is unfolded. An arrow on the crank arm indicates the direction of turn for rewind.

Since the rewind crank shaft does not pull out—and such baseplate rewind systems have an unpleasant knack of loosening their retaining springs and hanging pathetically down after hard use—the key located in the cassette core to engage for rewind is spring loaded, so that it can slip into place if the cassette is offered in an incorrect attitude. Only cassettes with a key in the long end of the core—such as have been standard for a few years now—may be used.

Film loading and transport

As already described, the M5, like its predecessors, is a base-loading camera. The quick-threading feature on the take-up spool is a compromise between the M4 fixed fitting and the removable quick-thread spool made available for M3 and M2 cameras after the M4 appeared. This means that the M cameras have three different loading diagrams, in addition to the conventional one with the unconverted M2 and M3s. With the quick-thread conversion on an M2 or M3, it is necessary to pull the conversion take-up spool out in order to zero the frame counter. On the M4, the counter zeros as the baseplate is removed; the M5 has this feature, although the take-up spool is removable. It will, unlike the M4 type, take untongued leader, which will assist those who roll their own from bulk. Obviously, the rearrangement of base key and rewind assembly make the use of the Leica cassette impossible in the M5, as it already is in the Leicaflex. The removable take-up spool means that the user, should he wish, can load the film in the conventional Leica way, inserting the film leader in the take-up spool, stretching it along the camera base, then dropping the take-up spool and feed-cassette into place.

The film register and tracking rails remain of the slim design favored by Leitz, the only significant difference being the omission of the upper tracking rail above the picture gate area, although there is a small stud centered in the gap. The two large studs at either end of the upper tracking rail found on earlier Ms remain.

In general, take-up spool apart, the Leica user will find no difference in the handling of the M5 as regards film transport. The lever which releases the transport sprocket to enable the film to be rewound is sited in the same position on the front right of the camera as on earlier M models, and is of the rectangular M4 design. Transporting the film on the M5 retains the ghost-like smoothness of that on earlier M cameras. This fact, combined with the retention of the shutter release button travel smoothness—despite the use of its initial travel to recess the meter cell arm in the camera dark chamber—gives the M5 precisely the same feel as its M predecessors.

Camera Back

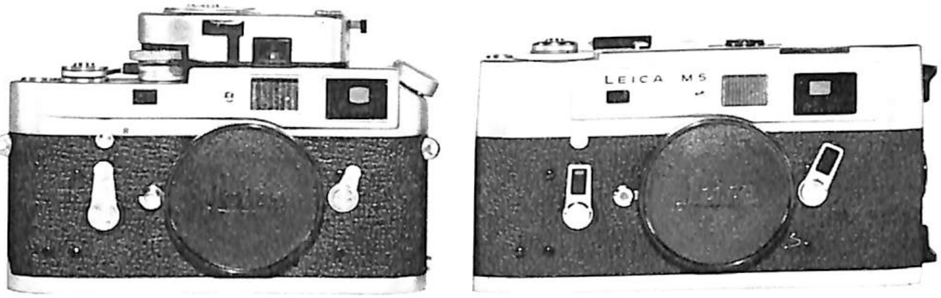
There are three features on the M5 camera back, as on earlier models. Central on the inspection flap is a new film type reminder dial and—rather remarkably—an exposure calculator. Since the assumption is made that the built-in meter will have been set for the speed of the film in use, it is no longer necessary to incorporate a film speed reminder facility, and the central wheel in the calculator merely has symbols for black and white, color negative, daylight and artificial light reversal color material types. The surrounding exposure calculator serves to remind the Leica user that, if the indicated exposure is 1/125 at f/8, he will also gain correct exposure by using the settings 1/250 at f/5.6, or indeed, 1/60 at 1/11! The aim is presumably purely decorative and the only interesting point to note is that the scale is calibrated for f/1.

The second feature on the camera back is the two flash contacts already described, now marked 'X' and 'M'. The old lightning flash and flash-bulb symbols have been discontinued, since AG and flash-cubes require X synchronization, originally reserved for electronic flash units.

The third feature on the back is the viewfinder ocular which is threaded to take the same eyesight correction pieces as the earlier M models.

Viewfinder

The M5 viewfinder is basically of the M4 type, giving a magnification of 0.7X and showing bright-line frames for the 35mm, 50mm, 90mm and 135mm lenses when they are inserted in the camera—the 35mm and 135mm frame are both visible simultaneously. The bright-line frames on all M models define very accurately the field of view of the various lenses with automatic parallax compensation. They do not, however, take into account the change in image magnification as the lens is



The Leica M5 weighs less than an ounce more than the M4.

racked out to focus at subject distances toward the nearer end of its focusing range, an advantage of an SLR, presuming its viewfinder is accurate.

With the M3, the 135mm bright-line frame is of just sufficient apparent size to be a practical proposition, while on the M4 and M5 it truly is getting too small to be of great value. With these cameras the 135mm f/2.8 Elmarit, with the magnifying viewfinder attachment which makes the 90mm bright-line frame show the field of the 135mm lens, is really desirable. The limits of the various bright-line frames are defined in the identical manner to those in the M4, with the exception that, on the M5 with the 35mm focal-length bright-line frame, the line at the bottom of the finder has been omitted except for two short bars at either end. This has presumably been done to prevent confusion with the match-needle system that appears immediately below it.

In addition to the M4 bright-line indications there are four white arcs surrounding the rangefinder patch that indicate the field being metered when the 50mm lens is on the camera. (See accompanying illustration.) These short arcs are very thin and do not interfere with viewing; they indicate the measuring field of the built-in through-the-lens meter when the 50mm lens is attached to the camera. The super-imposed rangefinder spot is of the same color as in other M models, but different in shape in that the sides are now curved. If these curves are imagined to extend to complete a circle, this defined the through-the-lens meter reading area with a 90mm lens attached to the camera. This aspect of the M5, together with the match-needle system visible along the bottom edge of the viewfinder, will be discussed in greater detail when dealing with the through-the-lens exposure meter.

Although the eyepiece on the M5 viewfinder is identical in dimensions with that in the M4, the mask is slightly larger. This increase over the M4 is no doubt incorporated to permit easier scanning of the match-needle exposure meter indication. Those who wear glasses will probably find it better, or even for some individuals, necessary, to use the eyesight correction pieces rather than their glasses.

The M5 range-viewfinder has been constructed like those on earlier M models to make it unnecessary to center the eye in the exit pupil of the ocular before the bright-line frames and the rangefinder spot become fully visible. This advantage has not, however, been extended to the visibility of the match-needle and shutter speed indicating system along the lower edge of the viewfinder. This requires the eye to be more or less central in the exit pupil of the ocular before reaching maximum visibility.

The meter needle, the index mark, and the shutter speed indicator are in fact located at different distances from the viewfinder ocular and an ingenious system of small prisms and optical components has been necessary to bring them simultaneously in sharp focus in the viewfinder. Although certainly simultaneously in focus, their actual location in three planes introduces a parallax error, which can amount to ± ½ stop or so between the meter needle and the index pointer as the eye is moved across the viewfinder ocular. For this reason, as well as for visibility, it is best to always center the eye when taking a reading with the meter.

The Rangefinder

The M5 has an M2/M4 type rangefinder. The base length of the M2/4/5 rangefinders is 68.5mm although, since their viewfinder magnification is 0.72X, the optically effective rangefinder base length is just over 1.93 in. With wide angle lenses, even with the much improved focusing screens which are now available, the 35mm single-lens-reflex can only make a good guess at accurate focus and rely on depth of field to cover up; whereas the coupled rangefinder camera maintains its accuracy and rapidity with such lenses. In addition, the design of wide angle lenses is complicated by the long back-focus required for the SLR. However, a through-the-lens meter cell in the darkchamber of the M5, as will be described later, restricts the amount of recess possible with very wide angle lenses which will now need to be more retro-focus.

The Darkchamber

The darkchamber in the M5 is of identical layout and overall dimensions to the earlier M models. The rangefinder actuating cam at the top has the increased travel of that on the M4 so that, for example, the new six element 50mm f/2 Summicron, which can focus down to 28 in, is rangefinder-coupled down to that distance. On the M3 it couples only down to 36 in, 0.9m; although the stop arm on the M3 rangefinder cam can be modified to extend its coupling range.

The difference with the M5 interior is that the arm carrying the meter element rises from a recess at the back with a movement parallel to the focal plane shutter blind, coming to rest centered along the optical axis of the camera against light-spring loading. The arm swings up into position as the camera is wound on, and, at the same time, the exposure meter battery is switched on; the initial pressure on the shutter release button lowers the arm and, as soon as it is recessed, continuing pressure releases the shutter. If a lens is removed after the film has been advanced, the arm automatically recesses, to rise again into position as another lens is inserted.

To effect this, a pin projects at 6

o'clock in the front of the camera well, so that the lower bayonet tab of any Leica lens will automatically actuate it as it is inserted into the camera. The pin projects through a notch in the lower retaining spring on the camera lens flange.

The presence of the meter arm element 4mm in front of the shutter blind restricts the depth to which lenses may be recessed into the camera. The resulting limitation on compatibility of certain Leica lenses will be discussed later. In fact, with very few exceptions, Leica screw and bayonet lenses can be fitted.

M5 Through-the-Lens Meter

The light-sensitive CdS element rises, when the film is advanced and a lens is in position on the camera, aligning itself along the optical axis of the camera at a distance of 8mm from the film plane. The meter element consists of two intertwined CdS elements with a window diameter of about 8mm. This dual element is also used in the Leicaflex and results in the variation in the resistance of the combined element remaining linear to the light intensity falling upon it, across its whole range. The element is fronted by a light baffle consisting of a coiled watch hair-spring, the exact purpose of which will be described later.

Meter read-out is displayed along the lower edge of the viewfinder. An index cursor moves at an angle along a bright-line strip having a central black bar, to a position determined by the speed of the film in use as set on the device on the camera top-plate and influenced by the shutter speed set. The meter needle deflects along this bright bar and is normally brought to intersect the cursor by adjusting the lens aperture. Alternatively, if the operator wishes to work at a definite aperture, as often occurs, then this is set, and the cursor brought to intersect the meter needle by adjusting the shutter speed.

The M5 through-the-lens meter thus operates on what is usually termed the 'stopped-down' system. Readings are taken, that is, with the lens at the aperture which will be used when taking the photograph. To incorporate a system in which the reading is usually taken at full aperture would require a new range of lenses with automatic diaphragms and a feeler system to tell the meter in the camera body what aperture has been preset. This would entail all the extra size, weight, complexity and consequent increase in lens cost found with an SLR. The practical objection to stopped-down reading with SLR cameras—the darkening of the focusing screen when the reading is taken—naturally does not apply with the direct vision viewfinder of a coupled rangefinder camera.

Another point is that the danger of using a CRF camera without removing the lens cap does not apply with the M5, since, if it is not removed, the meter will not read.

In addition to the match-needle system described, circular symbols at either end of the match-needle bar indicate whether the lens aperture should be opened or closed, and the shutter speed set is displayed at the extreme left. Toward the right of the bright line is an index point to which the meter needle should deflect when the battery condition is checked.

Meter Sensitivity

On the M5, as the maximum aperture of the lens attached increases, so the amount of light available to the meter increases, and the effective poor light reading capability is raised in its turn. Thus with an f/2 lens inserted, the M5 threshold point is 0.8 asb; with an f/1.4 lens inserted, the meter has a threshold point of 0.4 asb and, with the f/1.2 Noctilux, around 0.3 asb.

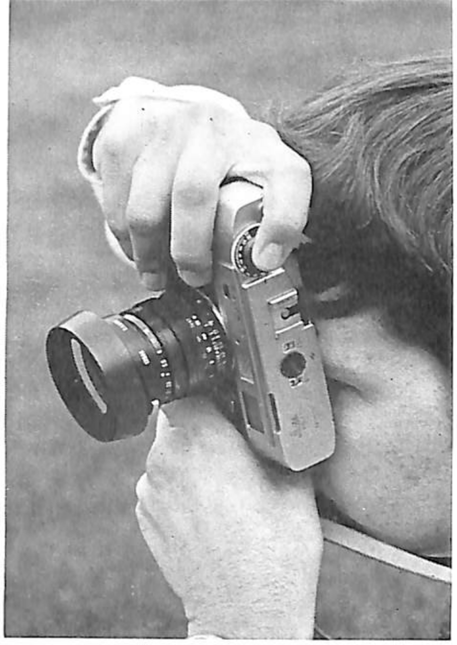
Taking the figure for an f/1.4 aperture, the M5 meter is about two stops less sensitive than the majority of off-camera CdS meters; about four stops less sensitive than the Gossen Lunasix; about two stops more sensitive than the clip-on Leicameter MR for M models; three stops more sensitive than the Leicaflex SL. The criterion of f/1.4 has been used in the above comparisons, because it seems increasingly the practice with SLR cameras with through-the-lens metering for the manufacturers to regard an f/1.4 as the normally fitted standard lens.

Two CDS elements of different sensitivity give more accurate response.

In practice, in ISO sensitivity terms, it means that the M5 with an f/1.4 lens can read an exposure of 1 minute at f/8 on ASA100 film. This sensitivity, in terms of ASA400 film gives a figure of 15 seconds (that amount of light requiring one quarter the exposure on the material of that speed) and with the lens at f/1.4 the same threshold light level would require an exposure of ½ second on ASA400 material. Thus the poor light sensitivity of the M5 meter with a lens at f/1.4 is reached with an exposure time of ½ second on ASA400 material. The threshold sensitivity of the meter is fixed and this is then expressed in terms of different shutter speeds, apertures and film speeds.

At the opposite end of the scale, in extreme bright light, another interesting point arises about which there may be some confusion. For example, with the M5, the maximum light level that can be read is around 100,000 asb—the level generally accepted as the maximum possible reflected light value to be encountered on earth. With a stopped-down reading through-the-lens meter, the brightest light level in which it will read is determined by the smallest stop. In other words, under lighting conditions when, employing the commonly used ASA100 film speed criterion, the M5 meter peaked with a reading of 1/1000 at f/16, then if the lens were capable of being stopped to f/22, and the shutter remained at its fastest 1/1000 speed, the meter would be able to read 200,000 asb and at f/32, 400,000 asb. This brightness is two light values beyond the theoretical limit of reflected light readings on this earth, but could presumably be reached in taking direct readings, say, of rocket exhausts, steel furnaces and incandescent sources generally. This point naturally applies to all through-the-lens meters capable of stopped-down readings, referred of course to their own particular measuring range peak and cross-coupling system.

The quoting of the measuring range of a through-the-lens meter using the



stopped-down method in terms of the range of mechanical linkage between shutter speed and meter plus the aperture range of the lens in use has the following practical importance: It is the range of time/intensity reciprocal relationships referred to film speed which determine the extent to which the sensitivity of a through-the-lens meter or clip-on external meter cross coupled in this way can be exploited at a given film speed setting. For example, using material rated at ASA400, the briefest exposure which can be read with a lens capable of being stopped-down to f/16 will be two stops or light values below the peak bright-light sensitivity of the M5 meter or 25,000 asb, shutter set to 1/1000. This should be good enough for most normal purposes, but a lens capable of being stopped-down to f/32 would be required in order to be able to read from the peak sensitivity value of 100,000 asb. With material rated at ASA800, the brightest conditions readable at f/16 would be 12,500 asb, three stops below peak sensitivity, and f/45 would be required to fully exploit the meter's sensitivity at that film speed setting. Toward the other end of the scale, ASA25 material provides a peak sensitivity reading at 1/1000 at f/11 with a threshold sensitivity at 4 seconds at f/2. As regards the M5, the important point is that any combination of shutter speed to which the camera can be set and aperture to which the lens in use may be set can, under the appropriate lighting conditions, be read on the meter.

Reviews of cameras using exposure meters reading through the lens in the Journal have often emphasized the fact that only measurements made in the film plane or its geometrical equivalent are entirely problem free. It will already have been noted that the meter element in the M5 is located 8mm in front of the film plane and, were other steps not taken, this fact would introduce meter reading inconsistencies, especially with wide angle lenses. With a wide angle lens, the emerging light beam is more divergent as the focal length decreases in relation to the format to be covered. Consequently a meter reading element placed perhaps half way between film and lens, or nearer the lens even than that, is going to 'see' much more of the oblique rays than it will with longer focal-length lenses and their increasingly less divergent emerging rays. With the really longer focal-length lenses on the 35mm format, the whole picture area is covered by rays approaching the parallel.

In the Leicaflex this difficulty is overcome by using a secondary mirror looking through the reflex mirror and reflecting the image into a meter-reading element in the bottom of the camera darkchamber, so located as to be in the geometrical equivalent of the film plane. In the M5, designers presumably decided not to introduce an SLR condition by making use of a mirror in this way. Instead they have chosen to compensate for this variance in illuminating beam divergence by an ingenious device and one which had all the simplicity of true invention. A watch-type hair-spring is coiled in front of the meter element. This has the effect of preventing some oblique rays from reaching the light-sensitive element, while allowing the more parallel to pass. The more divergent the rays the more they are shut off. This does not, however, present a complete answer, for example, to the problem of exit pupil variation at a given aperture with lenses of different degrees of telephoto and retrofocus construction. It is, however, a simple practical solution at least as good as any of the other, sometimes more complex, compensating methods which have been used with through-the-lens meters in single-lens reflex cameras.

A moment's thought will show that the nature of the M5 reading will vary with the focal length of the lens in use. The longer the focal length the more closely defined will the area of the subject read become, and in fact it will eventually approach a true spot reading. This is because, with the more parallel emerging light beams from such lenses and the greater depth of focus at the film plane, the meter window will then actually be seeing a selected area of the subject, and the spring baffle will have little or no effect. As focal length decreases, the beam becomes more defocused when it meets the meter element window and the tendency for oblique rays, even in the presence of the coiled baffle, to have an influence on the meter reading will increase. Under these conditions, as focal length decreases, so the reading becomes more of what we have come to know as a center-weighted reading. In other words, the central area of the subject will have the major effect on the reading while the reflectance of the surrounding areas will modify this to some extent.

The M5 meter tends to provide the photographer with the type of reading of most practical use with the focal length lens he has on the camera. With longer focal-length lenses, the great advantage of the through-the-lens meter in being able to make a reading virtually as a telescope is preserved. As the focal-length gets shorter so the whole subject area tends to be integrated, but with the central area given most significance. Importantly for those who use the Leica in applied photography, it is a system which works very efficiently in photomacrography, for which the high sensitivity of the meter and the long time exposure calculating facility on the shutter speed dial are also helpful. The West German precision camera industry is so often criticized for adhering to optical and engineering principles so rigorously as to impede the workmanlike aspects of their products, that we should applaud the applicability of the M5 meter as a functional tool in practical work.

On Test

The use of a spiral stop to compensate for the 8mm difference between meter element window and film plane made tests of its efficiency of especial interest. The short answer is that it does work, and remarkably well. In testing, ten Leica lenses were used from 28mm —the minimum focal length at present available for the M5—to 135mm, of differing maximum aperture at the same focal lengths and of different construction, including the three standard lenses of 50mm f/1.2, f/1.4 and f/2 maximum apertures. Readings were cross-checked at all apertures with this range of lenses at four different levels of constant illumination. The result was an almost precise correspondence of reading at a given aperture with focal lengths from 50mm to 135mm.

Turning to the 35mm and 28mm wide-angle lenses, slight discrepancies were noticed, but the maximum deviation at the apertures mostly used, that is down to f/11, was —½ stop.

The results of this testing were very impressive and, in consistency of reading, the M5 meter compared most favorably with any other on the market in the writer's experience.

Calibration

Having found that the M5 meter gives, within the limits described above, the same reading, irrespective of lens focal length or aperture, from a given surface brightness, the most important practical point is the nature of the calibration.

Tests indicate that the best method to adopt with the M5 meter is to regard it as giving what might be termed an integrated mid-tones reading. This corresponds with the manufacturer's recommendation to read off an area of the subject containing neither deep shadows or extreme highlights. They suggest that, in the majority of photographs, the suitable area for reading will be that used to focus on, and this works well on a surprisingly large number of occasions. Those accustomed to taking shadow readings for black and white film will find negatives somewhat over-exposed if they use the M5 meter in this way. It is not wise to regard this meter as giving a selected area reading in the same sense as the Leicaflex SL. Since the light-sensitive element is not in the film plane or its geometrical equivalent, despite the compensation provided by the cutting off of oblique rays by the coiled spring baffle described, the light will be defocused to varying degrees across the range of focal lengths with which the meter is used. With the longer focus lenses, beginning possibly with the 135mm lens at medium apertures and more especially with the Telyts, the image is sufficiently localized at the meter element window for a definable selected area to be read. As focal length shortens, however, so integration of a larger area of subject surface brightness occurs and the user can be less sure of the exact limits of the reading. As indicated earlier, in actual practical work, the M5 meter readings very much match the normal requirement with a given focal length of lens. So the solution it provides, although not an entirely scientific one, is certainly a very practical one. It provides a variation between selected area readings with long focal-length lenses down to center-weighted readings with wide-angle lenses. Over this whole range of lenses, and certainly until experience has been gained, a mid-tone area should be used as the basis for reading, or the range of readings over a given subject observed and the mean then set on the camera. There is no reason to regard the film speed to which the meter is set as sacrosanct and, if the user wishes to take highlight or shadow readings consistently, he should adjust the film speed setting in accordance with his experience. In general terms it can be applied like a narrow angle-off-camera CdS meter. One of the pleasant aspects of the addition of through-the-lens metering to the Leica is the ability to take a reading of a brightly illuminated subject from well back in the shadow, or through a window, etc.

Measuring fields

With the film plane equivalent measuring system in the Leicaflex SL, it is possible to be specific as to the measuring field of the meter with every focal length of lens. It is indeed possible to calculate the part of the angular field of different focal length lenses on the 24x36mm frame occupied by the meter element window on the M5, but, due to the out-of-focus effect described above, this is not so meaningful. For practical purposes the meter field with different focal-length lenses is referred to bright-line and other features in the viewfinder.

With a single lens reflex camera, it is only necessary to provide one indication of the measuring area of the through-the-lens meter on the focusing screen, for this will remain a constant, irrespective of what lens is fitted to the camera. The magnification given by any lens becomes apparent on the focusing screen. With the direct vision viewfinder on a coupled-rangefinder camera, however, this is not possible, since the angle of view corresponds to the field of the widest angle lens it has been designed to work with—on the M5 the 35mm lens field—and the fields for longer focal-length lenses are shown by bright-line frames decreasing in contained area as focal-length increases. Consequently the field of the M5 through-the-lens meter seen in the viewfinder also decreases as the bright-line frames contain a smaller area in the viewfinder.

The guide-lines suggested by Leitz for the measuring field with different lenses are as follows: With a 28mm lens, the measuring field can be regarded as contained approximately by the 90mm lens bright-line frame—this frame is automatically switched in when a 28mm lens is inserted in an M2, M4 or M5. A supplementary finder is required to show the field of a 28mm lens with the Leica, although with the M2, 4 and now 5, it is possible with experience to angle the eye round the viewfinder eyepiece to bring in the field outside the 35mm frame and gain a fair idea of what the 28mm lens will see.

With a 35mm lens, the suggested guide is the 135mm lens bright-line frame which also is automatically switched in when a 35mm lens is attached to an M2, 4 or 5.

The four bright-line arcs surrounding the rangefinder spot are joined into a circle to show the measuring field of the meter with a 50mm lens.

On an M5 with a 90mm lens the measuring field is defined by the curved sides of the rangefinder spot.

With a 135mm lens, the measuring field indication is taken as the rangefinder yellow spot itself.

This way of applying the M5 meter —remembering to observe a field within a field differing with each focal-length lens—does rather complicate matters at first and detract from rapid use of the camera; but, after a reasonably short time, use becomes instinctive and the user is not worried by the fact that, with the exception of the

Total picture control center in viewfinder.

50mm and 90mm lenses, circular meter fields are indicated by rectangles. It is the degree of deflection of the meter needle as areas of the subject are brought to the center of the frame that is observed and intuitively acted upon.

The 28mm f/2.8 lens referred to in these tests is the new retro-focus version of this lens, which has now been on the market for a year or so in anticipation of the M5, in which the presence of the meter element arm restricts the degree of recess possible. Fuller details of lens compatibility will be given later in this review. A retrofocus 21mm, presumably related to that for the Leicaflex, is in preparation for the M5, but it will naturally utilize a supplementary viewfinder to be placed in the accessory shoe of the camera.

Optical Compatibility

The Telyt long lenses cannot be used on the Leica other than with the Visoflex. In addition a 65mm f/3.5 Elmar is available to bring the range of application with the Visoflex close to that of the standard 50mm focal-length lens. Users might have expected the M5 through-the-lens meter to have leaped into its own with the Visoflex housings, but alas, this cannot be so. A moment's thought indicates that, when the Visoflex mirror is down and the subject can be seen, then the mirror masks the light from the meter element. When the mirror is raised out of the way, a reading can be taken but there is no means—at least with a handheld camera—of seeing what one is reading from. With the M5 fixed to a tripod, readings become possible since the subject can be framed and the center circle on the Visoflex screen will, SLR fashion, show the meter measuring field irrespective of focal-length of lens fitted. The area from which it is desired to make the reading is centered over this part of the screen and the user then raises the mirror, blacking-out the Visoflex finder, and looks through the normal range-viewfinder eyepiece on the camera body to take a meter reading. The presence of the Visoflex will black out both the rangefinder spot and the direct vision viewfinder, but sufficient light will enter the meter readout window, lapped into the top plate on the camera front, to enable the meter reading to be taken and shutter speed or aperture adjusted to match the needle. This sequence of operations is obviously quite impractical with the camera hand-held, but at least the meter remains applicable in many applied techniques which use a support.

Bayonet fitting Visoflex I and Visoflex III units can be used without fitting difficulties on the M5, the model III having been constructed with possible M5 dimensions in mind. The Visoflex II, however, is not recommended for the M5 by Leitz. In fact, the 4X magnifier can be mounted. The magnifier version of the Visoflex III (16499) and the vertical magnifier (16461) are suitable. The Visoflex shutter release lever cannot be used as the release button is in a different location on the M5.

Copying Equipment

The Leica M5 cannot be attached to the various focusing slides and cannot be used on the Reprovit. For use with the copying gauges for quarto, octavo and postcard size in the screw thread and first bayonet versions this equipment must be modified by Leitz before the M5 can be attached.

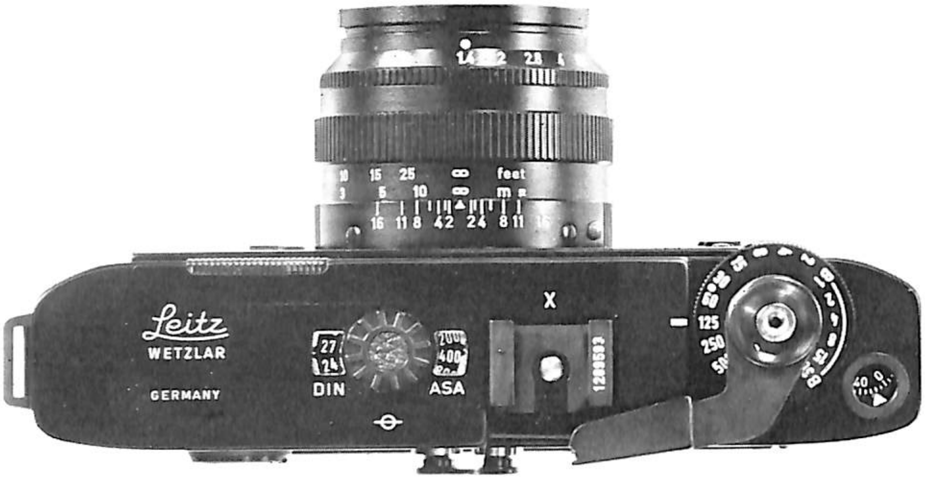
Lenses Requiring Adaptation

To prevent the meter element arm from swinging up and interfering with the rear section of wide-angle lenses, a recess has to be milled into the bayonet with the following lenses. They can then be used but, naturally, meter readings cannot be taken.

☐ 21mm f/4 Super-Angulon with screw thread: only the bayonet adapter (Cat. No. 14097) has to be modified.
☐ 21mm f/4 Super-Angulon with bayonet mount.
☐ 21mm f/3.4 Super-Angulon with bayonet mount.
☐ 28mm f/2.8 Elmarit with bayonet mount, after Serial No. 2314920.

Recent production of the 28mm f/2.8 Elmarit has been of a retro-focus design so that after the serial number quoted above no adaptation is required and the lens will read with the meter.

Owing to the increased height of the M5, two lenses—the 35mm f/3.5 Summaron with detachable viewfinder front attachment and the 50mm f/2 close-focusing Summicron — must be modified to prevent mechanical interference with the top of the camera. The 35mm f/3.5 Summaron with detachable optical viewfinder, designed for use with the M3 and which has no 35mm bright-line frame, will after modification have the same effect in the M5 viewfinder as in the M2 and 4 viewfinders, with consequent low magnification, although the meter will read.



Top plate of the Leica M5.

It should be noted that body caps made for earlier M cameras may damage the meter element arm release pin if used on the M5. These can, however, be modified by rounding off the tabs so that they push the pin gently as they are inserted and turned.

Collapsible Lenses

If a collapsible Leica lens is used on the M5 and recessed, it will probably severely damage the meter and the camera. If these lenses are to be used with the M5 it is probably safest to cement them permanently in the extended position for safety's sake.

Other Lenses. Apart from the exceptions listed above, all Leica lenses which can be used on M cameras—with a screw/bayonet adapter where necessary—can also be used on the M5 with full benefit of through-the-lens exposure reading. With early uncoated lenses there will be the advantage of an actual transmission value reading having been taken, although such lenses, excellent in their own time, cannot approach the performance of the latest designs.

Lens Fitting

As will have been appreciated, the lens flange on the M5 is dimensionally identical with that on the earlier M cameras, although independent sources state that the construction has been strengthened. A small difference in appearance is that the red dot, against which the red bead on the lens mount is aligned before insertion, is now central in the bayonet release button. This is a more logical site than on the flange itself.

M5—General Conclusions

With this camera Leitz has put an exposure meter reading through-the-lens into a coupled-rangefinder camera. They have done so in a manner which enables most Leica lenses made in the last 40 years, with four wide-angle exceptions, to use the meter. The difficulty of using this with the Visoflex housings is disappointing, but could not have been avoided whatever through-the-lens system had been used, since the mirror in the housings is inevitably in the way. Nevertheless, with a new Visoflex, these difficulties could be overcome and the Leica user presented with a remarkable new facility with long focal-length lenses, narrowing the advantages of the single-lens-reflex camera.

Without this facility with long focal-length lenses and, taking into account the apparent rather than actual problems of meter measuring field delineation, the M5 may be taken by some to have proved the case for the overall practicality of the single-lens-reflex. In fact the M5 occupies a rather curious crossroads position. Imagining that the Leicaflex had not already appeared, then many photographers, after using the M5, would regard the next logical step by Leitz to be the introduction of an actual single-lens-reflex camera with through-the-lens metering. However, the Leicaflex has already been with us for six years and the problem is where the coupled-rangefinder camera can move next. The question whether it is possible to combine reflex viewing and coupled-rangefinder in one camera must be left open. There may indeed be other alternatives. For example, man is a two-eyed animal who, when using a camera, becomes one-eyed. By making use of new viewing and focusing systems employing both eyes, a considerable new range of possibilities can be imagined, although this might mean designing cameras in which the viewing/focusing (bi-) oculars were along the base of the camera, with the camera back pressed against the forehead to prevent one's nose getting in the way. Barnack himself envisaged a camera held in this way to gain the rigid support of the forehead along the camera back. These speculations are somewhat removed from the subject in hand, but with the M5 Leitz seems to have broken out of the goldfish bowl in which the M design had remained for a number of years—however satisfactory an end concept the M4 has been—and this naturally leads to theorizing as to future possibilities.

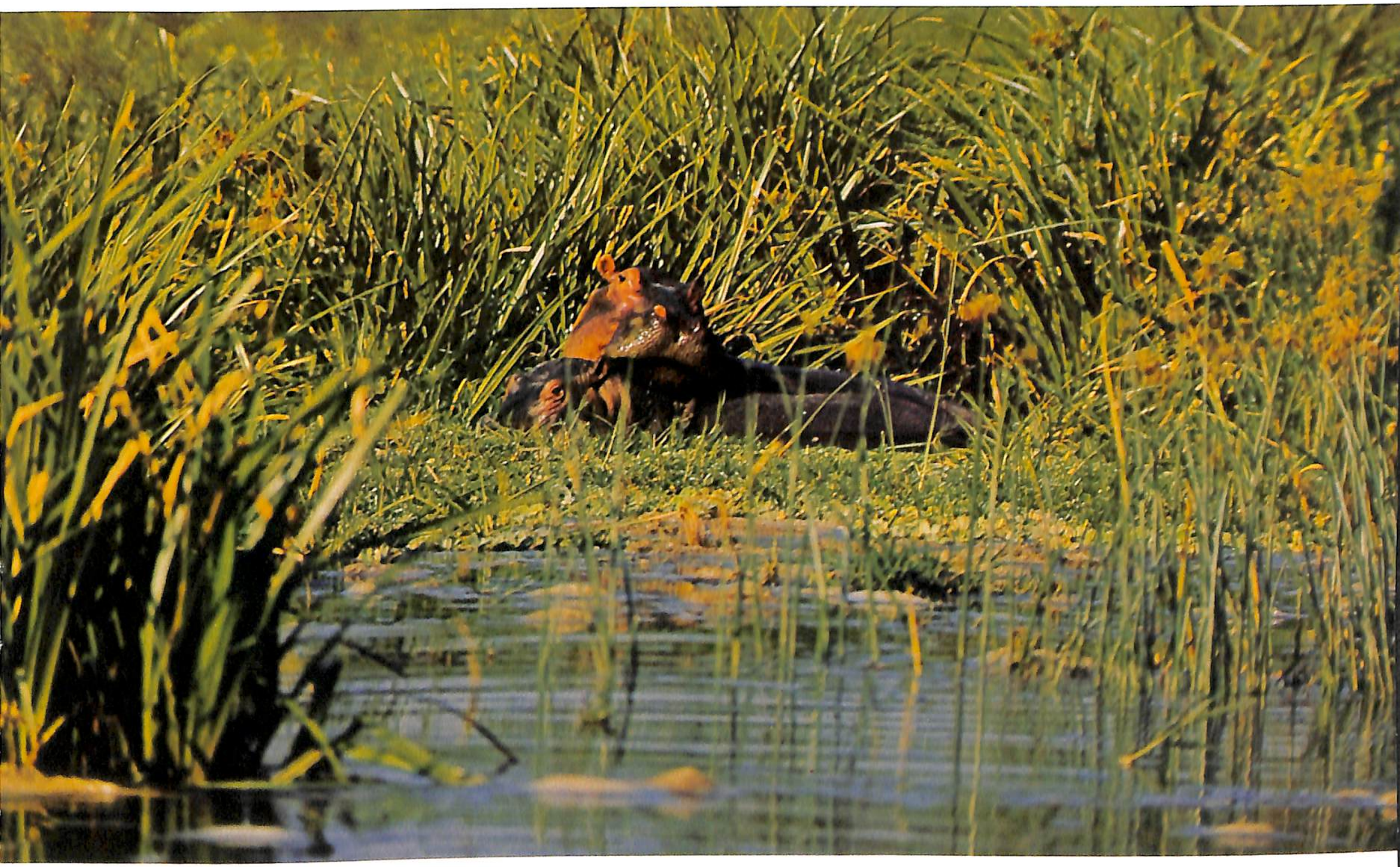
Fundamentally then, the M5 is a true Leica camera and will be immediately recognized as such by every Leica habitue. Professionally speaking, the Leica is mainly used with the range of lenses which the M5 meter does accept, and in applied work the accuracy and greatly increased facility for exposure reading will outweigh any slowness in its use. It is a pity that the size has increased towards that of an SLR camera, but the actual operational ease of the Leica has been considerably enhanced by the much improved layout of operational controls. With this camera Leitz has set coupled-rangefinder design and manufacture on a higher rung.

Notes on Africa – ERNST HAAS

Safari with the Leicaflex

Sometimes dreams come true!

Who would not like to go on an African photo safari with the very best equipment possible? I was the lucky one! To finish the last chapter of my book "The Creation" I travelled to East Africa with two Leicaflex SL cameras, one 28mm Elmarit-R, one 50mm Summicron-R, one 90mm Elmarit-R, one 180mm Elmarit-R and the 400mm Telyt f/6.8 lens plus a motor. In addition, I carried with me a Leica M3



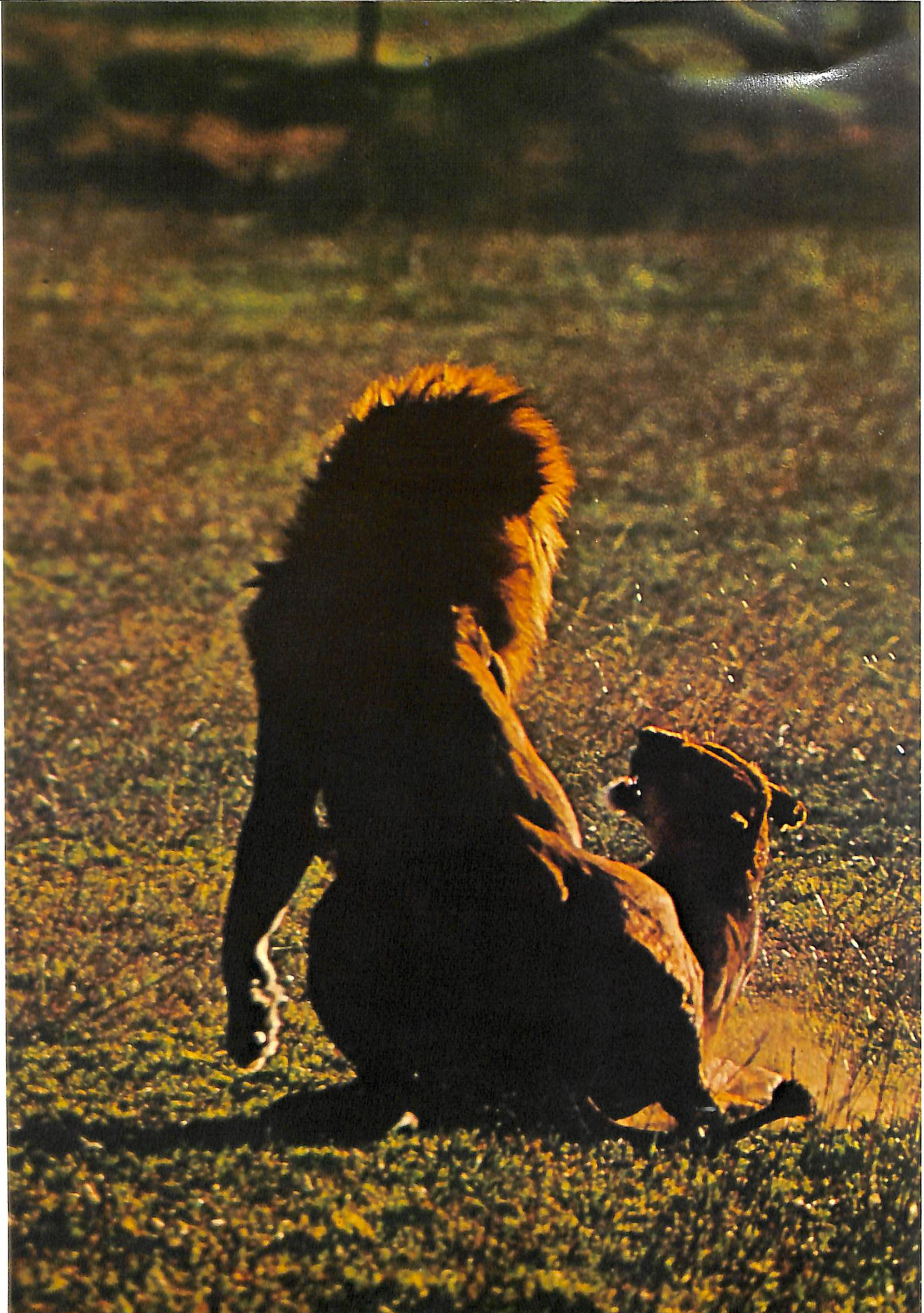
with three lenses as back-up equipment in case of loss or emergency.

I followed the Grand Circular Route from Nairobi via the Masai-Mara Reserve in Kenya, then across the border to Tanzania, the Serengeti Plains, Ngoro Ngoro Crater, Lake Manyara and Arusha and back into Kenya and Nairobi past the Amboseli Reserve at the foot of Mt. Kilimanjaro. Most of the trip I travelled in a rented VW bus with driver but had to rent land-rovers at some lodges for particularly rough terrain.

The driver is a very important part of your safari. A lazy, unenterprising, unknowledgeable or uncooperative driver could really ruin your trip. Since the distances are huge in East Africa, and many of the roads are only dirt roads, you ought to make sure before leaving Nairobi that you have a capable, skilled and likeable person with you.

In the East African game parks one works almost exclusively from the car, i.e. shooting through open windows or open roof. You are hardly ever allowed to leave the car which is the only disappointment during the trip. Thus, you have to compose your picture from the car, and you depend on your driver again. For, although animals are used to cars, it is still important to approach them the right way. Consequently, my first advice would be to get a good car, a skilled driver, and to always have your cameras ready to shoot.

It is a good idea to spend a few days in Nairobi first and to get used to the climate, altitude and to the animals. The Nairobi National Park on the outskirts of the city is an excellent game park and a sort of concentrate of what you will see later. Here you can try out your driver, get used to shooting from a moving car, find out what equipment you might still need (Nairobi has very



good camera shops) and have comfortable safari clothes made in 48 hours.

Take great care in selecting your *lenses*. If you are lucky you will have the kind of equipment that lets you forget the camera itself so that you can concentrate on seeing. Don't under-estimate the regular 50mm lens. You will rarely need a wide-angle lens, but a 90mm comes in very handy. A 180mm is good, but can be awkward at close distances. Thus, try to stay at the proper distance when using it. Change lenses from time to time to avoid getting too many similar frame proportions in your pictures.

During lengthy car trips cover up your equipment with a cloth or a piece of chamois skin. Clean the dust off your lenses as often and as carefully as possible. East Africa gets quite dusty during the dry season.

Since the African sunlight is strong enough, it is convenient to be able to shoot at 2000th of a second from the moving car. But avoid using your telescopic lens constantly or the animals will be too tightly framed and look as if they had been photographed in a zoo! Let the animals be surrounded by their environment.

A lot depends on patience. A good picture is based on nuances. Take some time, watch the animals. The longer you look, the more you see. Get used to them and let them get used to you. They don't mind you as long as you keep quiet. So be a silent photographer. Learn to concentrate! And if nothing happens for a while, read about the game parks and animal behavior in some of the excellent publications you can buy in Nairobi. That way the time passes faster and new things develop in the meantime. Return to certain interesting areas several times. The wild life always changes and as you get familiar with the area you learn to avoid previous mistakes.

Remember that a motor drive on your camera shoots terribly fast and tends to make you "sloppy" in seeing things. Use the motor only when absolutely necessary. And if you use it, don't let it run like a movie camera. Always select your moments. If you use it unthinkingly, you may often end up 250th of a second behind a good picture.

In the beginning, every new animal is an event. But don't overshoot. You will usually see the same animal again in different scenery and circumstances. If it is a rare animal, stay longer in one place and get to know it. There are lots of fascinating animals right around the lodges that you can photograph on foot—lizards, monkeys, birds and hyraxes. The latter is a small rabbit-like animal.

Although you can buy film at some of the bigger lodges it is advisable to bring it from Nairobi (it is cheaper there than in Tanzania). Bring plenty—you usually need twice as much as originally expected. Keep the film with you at all times in a dark container and don't let it lie in the sun.
Also don't put it in refrigerators; Sudden temperature changes are very bad.
Sleep during the hot lunch hours when the light is harsh.
You'll save film and energy. Tired people overshoot.
Don't forget that you have to edit later, so why not do a little "editing" as you shoot?
If you can afford the time, don't mix the shooting of color with black/white. Have days for each.
But always carry both kinds of film with you.
Travel with somebody who is not impatient or quickly bored.
A bad companion could do more harm than the worst light.
I personally prefer to go with somebody who does not photograph.
Avoid the company of too many other cars and camera fans.
Otherwise you will end up being surrounded or being asked for film.
Stay away from other cars in the game parks or wait until they have passed.
Most people travel in groups and want to see too much too fast.
Don't talk much to tourists about your plans.
But listen to the game wardens and rangers.
Also *don't* listen too much to the opinions of tourists at the lodges.
People can see things very differently.

And never lend your equipment to anybody, especially not to children!

Whatever you do, I guarantee that you will fall in love with Africa and prepare for your next visit the day you leave it.
It is one of the truly exhilarating experiences to be out there in the lush green hills or the brown plains surrounded by the most magnificent wild life on this earth.

Focusing On

Leica Historical Society

Last year's annual meeting of the Leica Historical Society took place in October at the Rockleigh, New Jersey headquarters of E. Leitz, Inc. For one whole day, the largest attendance ever listened to informative talks by members on the old and the new, swapped experiences and equipment and elected new officers for 1972. A highlight of the meeting was a message from Dr. Ernst Leitz read by President Rolf Fricke. Dr. Leitz expressed his great pleasure at having been elected Honorary President of the Society and referred to himself as "the first genuine Leica Amateur after Oscar Barnack".

LHS Members assembled in front of the E. Leitz Building
Annual Meeting, Rockleigh, N.J., 30 October 1971.

Other messages received included greetings from the Leica Historical Society of Japan and from Great Britain's famous collector of Leicas and Leica memorabilia, John Newton. The many interesting speeches on the program included a talk on the early history and evolution of the 35mm camera and those who contributed to its development. Leitz' James Lager, a member of the Society, gave a talk, illustrated with slides, of the early Leica models and unusual variations of the cameras and accessories through the years. There was also a "Trade and Show" session during which members displayed many rare items from their collections.

New Books

Two new books of interest to readers of Leica Photography are appearing during the Spring. PHOTOGRAPHS and ANTI-PHOTOGRAPHS by the well-known photographer Elliott Erwitt will be published by the New York Graphic Society. Some of Mr. Erwitt's photographs from the book appeared in the last issue of LEICA PHOTOGRAPHY. Professor Frank Grande, a contributor to this magazine, (see article on the new 560mm lens in this issue) has just completed an informative book, the LEICAFLEX SYSTEM OF PHOTOGRAPHY, for Amphoto.

Arizona Leica Club Is Ten Years Old

On the night of an eclipse of the moon... ten years ago... the Arizona Leica Club was born. This year, when men are flying to the moon, the club is ten years old. Much has happened during this past decade; the Leica Club has grown in stature, there has been exchange of techniques, lively discussions and, in general, members are getting more fun out of their favorite camera by pooling common interests.

In the early days of 35mm photography, there were many Leica Clubs both here and abroad. But World War II saw most of them disbanded. The Arizona Leica Club, as far as we know, was a pioneer of the post-war group.

Contrary to most camera clubs, they decided not to have monthly competition between themselves but rather, in the furtherance of club unity, to compete as a club in the contests of the Council of Arizona Camera Clubs, and in various state and local contests sponsored by other groups, in various categories.

Many of their members have gone far in P.S.A. competition. There are three five star members: William H. Messinger, John C. Cacheris, Howard Lindly. Members are much in demand as judges in all types of photo competition.

The club has attracted many well-known speakers and noted photographers for their programs, including Leitz's Walter Heun, John Brooks, and Eugene Anderegg. The late Maury Foster, Leitz's West Coast representative for many years, was a frequent visitor, offering helpful workshops. The club has often sponsored such programs on a scale wider than their own, inviting the public to many fine photographic events over the years.

Many of the members have distinguished themselves with very professional slide shows of their own, and enjoy presenting them to audiences of the camera clubs as well as other groups.

Most members have worked diligently in some type of office within the club, and meetings are very well attended. The Field Trip Chairman plans field trips to places of interest around Arizona, keying them to the proper times to photograph the many natural wonders of the state.

The meetings are usually dinner meetings at a local restaurant, or perhaps an outdoor steak grill. There is also the Pan-

Current officers of the Arizona Leica Club.

cake Breakfast where hardy Leica members get up early to enjoy the fare out in the desert or high up in the mountains.

It has been difficult to limit membership to 50, which had been decided upon originally to keep the groups small enough to properly handle workshops, field trips, etc. However, it was recently voted to enlarge the club to 60 members. There has always been a waiting list. There was criticism of this restriction in the beginning, although it is just one of expedience. The only requirement is being a Leica enthusiast. (And who isn't with a Leica?) Members still include beginners as well as advanced hobbyists.

The club has been asked from time to time for a copy of their by-laws by other Leica enthusiasts around the country who wish to form a similar club, and they are always happy to oblige. Any questions will be cheerfully answered. Just write to The Arizona Leica Club, 2329 East McDowell Road, Phoenix, Arizona 85006.

Attention: Reprovit II Owners

Leitz would like to know who you are, so won't you please stand up and be counted! We may have interesting news for you regarding some useful new items applicable to the Reprovit II. Please identify yourselves to the Registration Department, E. Leitz, Inc., Rockleigh, New Jersey 07647.

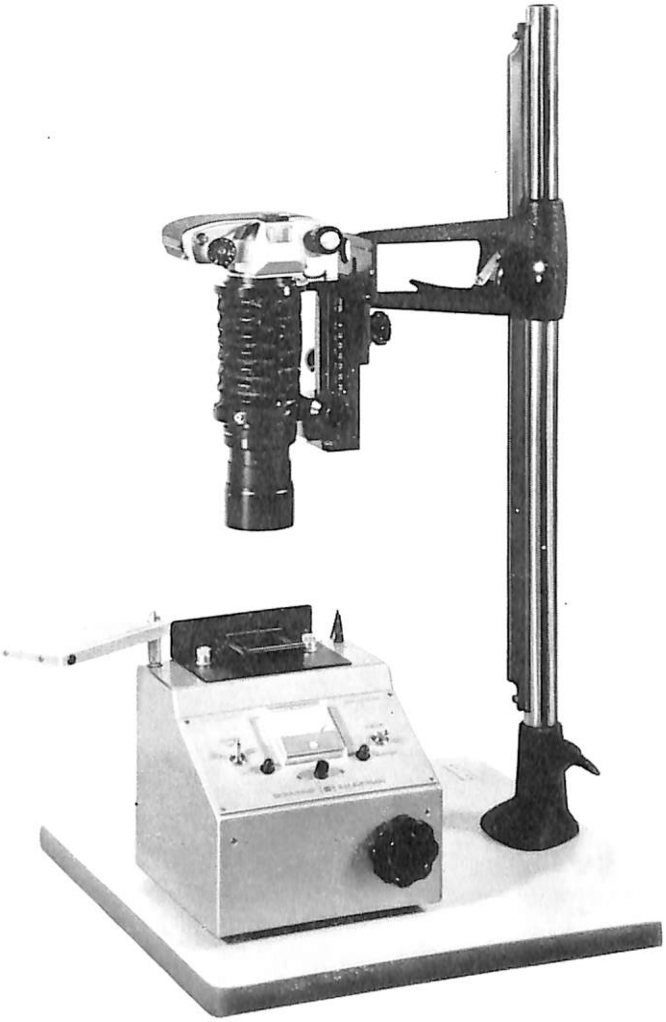
Color Slide Courses

Helen C. Manzer, Ph.D., FPSA, ARPS, the widely known color photographer, teacher and lecturer, will again offer courses in color slide photography during the summer and fall. On the West Coast, the four courses on California's Monterey Peninsula will be from May 21 to June 2, from June 11 to June 23; June 25 to July 7, and July 9 to July 21. Further information is available from Thomas J. Hardy, 771 Toyon Drive, Monterey, California 93940.

East Coast courses will again be held at Weirs Beach in New Hampshire. They will take place from July 30 to August 11, and from August 13 to August 25. Two special courses featuring fall foliage colors will be from September 24 to September 29 and from October 1 to October 6. More information is available from Ruth L. Wiesen, P.O. Box 553, Newport, Vermont 05855.

At Last: The Perfect Slide Duplicator

Leica/Leicaflex users who have long been asking for a device that would enable them to duplicate their 35mm transparencies have had their wish fulfilled. Leitz can now offer them an instrument for slide copying that will produce perfect results. The Bowens Illumitran, made especially for E. Leitz, Inc., will copy, crop, correct, enlarge, reduce and make internegatives and film strips. It is simple to operate and can be used with both Leica and Leicaflex cameras. Delivery is immediate from Franchised Leica Dealers.



New Lens, New Outlook

The 560mm Telyt f/6.8, Long Focus Lens

by Frank D. Grande

Leitz has introduced a new long-focus-lens, the 560mm Telyt f/6.8. This is a fitting companion to the now-famous 400mm f/6.8 and shares many features with it.

The chart shows the specifications at a glance. But to appreciate the versatility of this new lens, let's examine some of these features more systematically.

The lens is available in *two versions*—one (Catalog No. 11,865) for the Leicaflex, another (Catalog No. 11,864) for the Leica "M" series with the Visoflex housing. And now the Leica M5, as well as the Leicaflex, provides you with a selective, through-the-lens metering system. With the M5 Visoflex combination, first aim the meter cell by using the small circle in the center of the viewing-focusing screen. (This circle has a diameter of 7mm, the same as the CdS cell.) Then lock the mirror up out of the way and adjust the aperture and shutter speed while observing the meter scale through the camera's eyepiece. Obviously, this is slower than with the Leicaflex, but is useful, nevertheless, for stationary subjects or for readings taken beforehand.

The deceptively simple optical construction of the lens—a two-element, cemented achromat—provides *maximum possible contrast.* By reducing the number of elements and glass-to-air surfaces to a minimum, Leitz has greatly increased the ability of this lens to minimize the effect of atmospheric haze, the traditional bane of very long focal-length lenses. You can see the ability of the lens in this respect in the picture of a duck on a partly frozen pond. The feathers and the varying tones stand out sharply.

When working in black-and-white, you should try using a medium-speed film, such as Plus-X. This will help you realize the full contrast obtainable with this lens while retaining a fast enough shutter speed to minimize the effects of camera shake, which are increased by long focal-length lenses. While a faster film, such as Tri-X, may be necessary to record action in low light, you should remember that a fast black-and-white film has inherently lower contrast and thus tends to cut down the differences between various tones. But when you do use fast film, it's good to know that your lens is working for you, not against you.

A filter slot in the rear part of the lens tube permits you to use *Series VII filters.* Since these are the most widely used size in the Leicaflex system, you have maximum flexibility. Besides, filters large enough to fit over the front of the lens would be difficult to obtain, expensive to buy, and burdensome to carry.

The *push-pull focusing* design facilitates the speed with which this lens can be used. Remember: the distance through which the optical system of a lens moves is directly proportional to its focal length and inversely proportional to its focusing distance. Thus, a very long lens that focuses relatively close would require you to do a great deal of turning with a focusing ring. Some designers have tried to get around this with a mirror-optical system, which reduces the focusing travel. But that system is restricted to one fixed aperture and also is characterized by disturbing, doughnut-shaped images of the out-of-focus points of light. The sliding focusing control on the new Telyt obviates most of these difficulties.

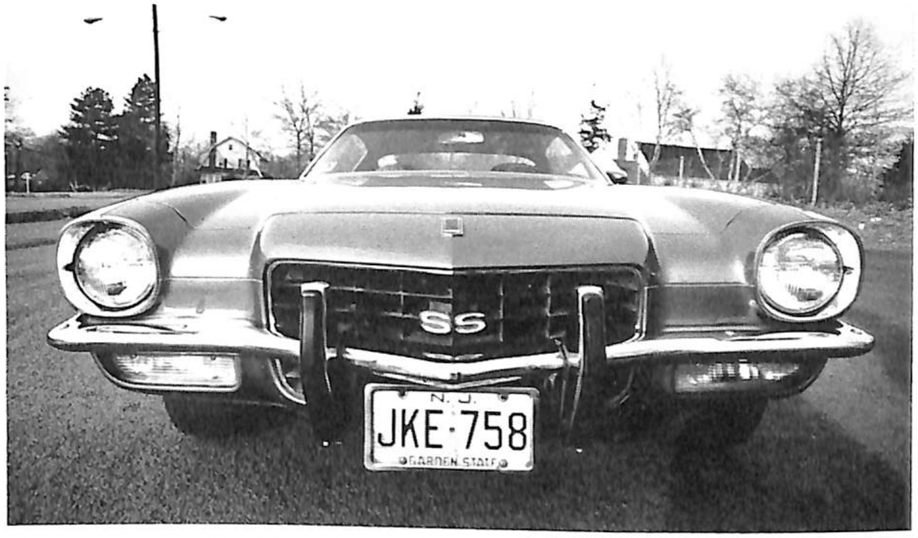
A logical adjunct to this focusing control is the small button on the top rear of the lens that permits you to rotate the camera body 90° in either direction for vertical shots. This is also useful if you have the camera mounted on a tripod.

The *shoulder* pod helps you to use the lens hand-held. Obviously, a tripod or some support is best with slow shutter speeds. But in many situations —for example, in certain types of sports photography—a tripod might be impractical or would hamper your movements. Hand-holding the lens, I found it easy to get a number of good skiing pictures my first time out—even though I'm not experienced at sports photography. (Since I had positioned myself on the middle of the slope, a tripod would have been impractical anyway.)

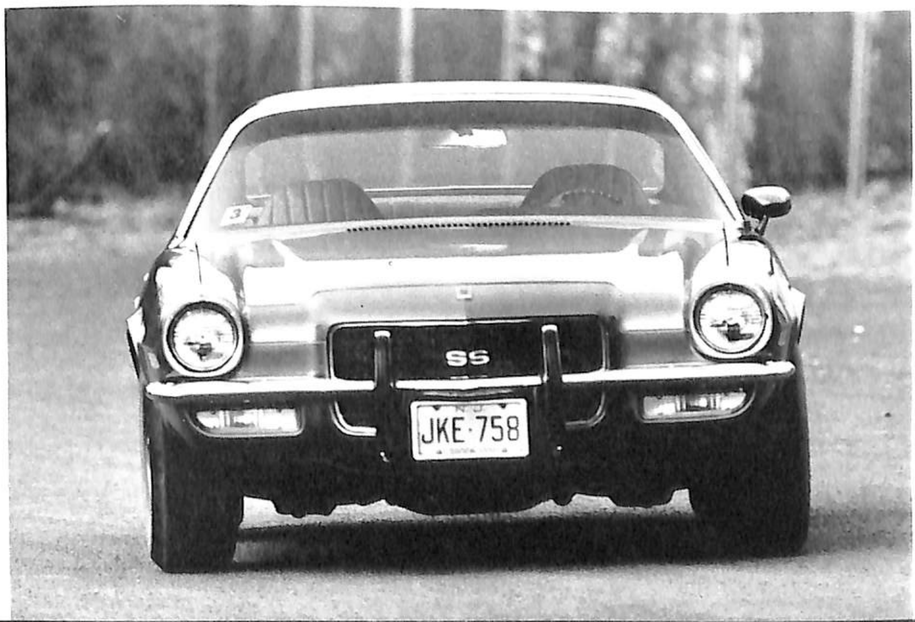
The rubberoid covering on the extensible lenshood permits you to rest the lens on any available support without marring the black anodized finish of the lens barrel. But make sure that the supporting surface doesn't extend in front of the lenshood. The surface would be thrown out of focus, so you might not even see it in the viewfinder, but later you'll notice a slight degrading of the image at the bottom of your picture. On the other hand, in photographing caged animals, you can deliberately throw the bars out of focus so they'll almost seem to vanish in the final print. But there is a difference between the consciously accepted device and the accident.

Perhaps most striking is the unusual rendering of *perspective* that you can obtain with this lens. The great distances at which you work result in a flattened perspective: objects in widely separated planes appear to be compressed. You can easily get an idea of this effect from the television coverage of a horse race. In a head-on shot (taken from a long distance), the horses appear to be bunched up. But when the cameras switch to a side view, then you can see that the horses are, in fact, spread out.

Our eyes see far-away things in the same way. But the brain tends to reinterpret what we see and compensate for the unusual perspective. The camera doesn't do this. And the resulting compression of space enhances the outline of objects. With the new Telyt you'll be able to create a whole new world out of common objects. This was the very kind of vision that characterized many of the mature paintings of Paul Gauguin. Of course, you can also overcome this "flattening" effect to some degree by using a wide aperture and selective focusing to throw the foreground or background out of focus.



These two photographs of a car, the one above taken with a 21mm Super-Angulon-R, the one below with a 560mm Telyt-R, show the effect on perspective of shooting from different distances.



New Products

New Series VII Polarizing Filter

A newly introduced Series VII polarizing filter for the Leicaflex SL greatly facilitates the use of these filters. Previously, because the secondary mirror of the camera introduces a partial polarization of the light reaching it, the use of a polarizing filter in front of the lens necessitated an inconvenient exposure metering technique. It required rotating the filter until the meter needle deflection was at a minimum, and then aligning the meter needle and follow pointer to set the correct exposure. When the polarizing filter was rotated to give the desired effect, the meter needle and follow pointer would separate, but would not need readjusting.

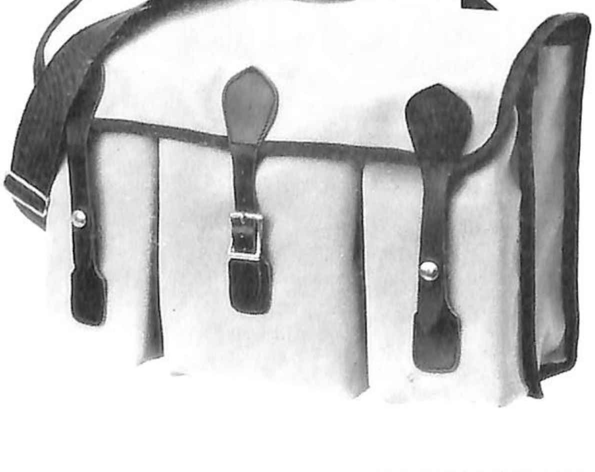
The new polarizing filter eliminates the need for this procedure. Placed properly in the new lens hoods (Cat. No. 12508 and 12509) so that the yellow dot on the filter mount is visible, it will give correct metering regardless of filter rotation. It can only be used with the newer lenses which incorporate the new lens hood.

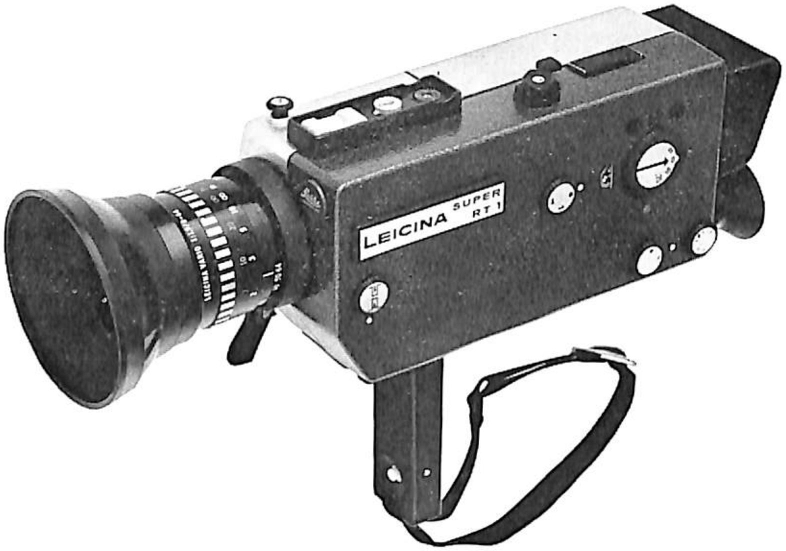
The polarizing filter (Cat. No. 13370) is $57.

Canvas Carry All

E. Leitz, Inc. has been instrumental in developing a handsome, lightweight camera equipment bag which is now available through franchised Leica dealers. Durable and waterproof, with reinforced, adjustable shoulder straps, it has a natural tan duck outer surface, and drill interior surface. Both are Scotchguard treated and laminated. The "tote" measures 10½" x 14½", and has a flat outside back pocket and three deep outside front pockets secured with velcro fasteners in addition to leather straps. An inside pocket holds a camera and lens. The bag itself is big enough to hold several cameras, lenses, accessory equipment and film. An adjustable flap separates and protects equipment.

The camera bag (Cat. No. 98280) is listed at $17.85.





Leicina Super RT 1

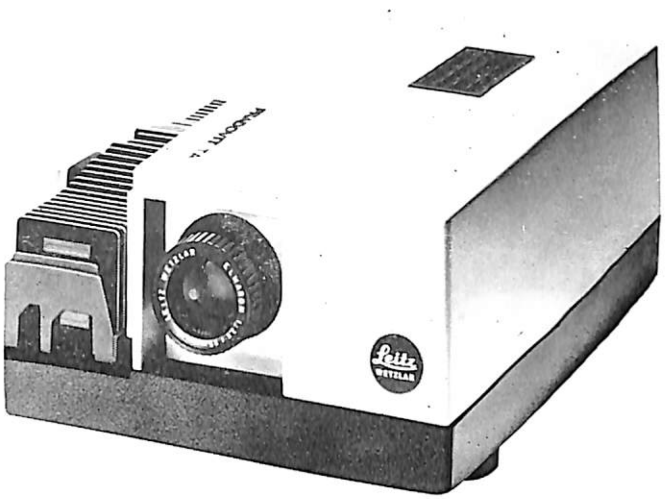
A new, improved version of the Leicina Super 8 movie camera, the LEICINA SUPER RT 1, has recently been introduced, replacing the previous model. Its important new features include a fully automatic lap-dissolve, which makes possible professional caliber fade-out, fade-in effects and a metering system that functions continuously, eliminating the need to reset to the appropriate f stop before starting a new scene. A manual override provides creative control of exposure throughout changing light conditions, no matter how extreme. Main control elements such as the control for the zoom speed have been repositioned for greater convenience and smoother operation.

A new low-speed setting of nine frames per second has been added to the previous settings of 18, 25, and 54 frames per second. Also new is the positive zero position built into the frame speed selector button, which switches off all systems to avoid inadvertent power leaks when the camera is not in use.

The fully automatic control unit, an accessory, permits single-frame shots synchronized with flash and a wide range of time-lapse possibilities, including non-stop recording for up to twelve days without changing the film cassette. The single-frame counter simplifies double exposures, animation, and other special effects.

At its closest focusing distance of 36" and a 64mm focal length setting, the LEICINA SUPER RT 1 covers an object field approximately 47 x 63mm. With a supplementary front lens attachment, the camera distance can be reduced to less than half, and the object field to 17 x 22mm.

The LEICINA SUPER RT 1 (Cat. No. 20513) with 8-64mm Leicina Vario f/1.9 lens and a lens hood accepting Series 7 filters is $929.



Pradovit TA

A new, moderately priced projector, the PRADOVIT TA, has joined the ranks of top-performance projectors from Leitz. Similar in appearance, the new projector features the same superior optical qualities and functional ease of the Pradovit Color. Made of particularly high heat-resisting Makrolon, it is completely insulated for safety. A highly efficient fan keeps housing, slides and lamp cool.

The PRADOVIT TA has a low voltage, 150-watt, 24-volt halogen lamp. It is motorized for forward and reverse operation, with manual operation and single-slide projection possible as well. All controls are conveniently located. The projector uses the same trays for 30, 36, or 50 slides as the Pradovit Color.

The PRADOVIT TA, complete with 85mm Elmaron f/2.8 projection lens (Cat. No. 30159), lists for $153.00.

Extension Tube for Long-Focus Lenses

The 400mm and 560mm Telyt f/6.8 lenses, known for their lightweight and fast-handling potentials, can now be used also as "long distance close-up lenses". A new extension tube, 60mm long, made specifically for these lenses, fits between the two parts of each lens and considerably shortens their near focus limits. With the use of one extension tube on the 560mm, the near-focus point of the lens is changed from 20 ft. to 12 ft. 6 in. When combined with two additional extension tubes, its near-focus point may be reduced to 8.6 ft. The area photographed would be 56 x 84mm for a reproduction ratio of 1:2.33. This permits large scale photography from a long distance of tiny, perhaps timid subjects such as butterflies.

The extension tube (Cat. No. 14182) is $33.

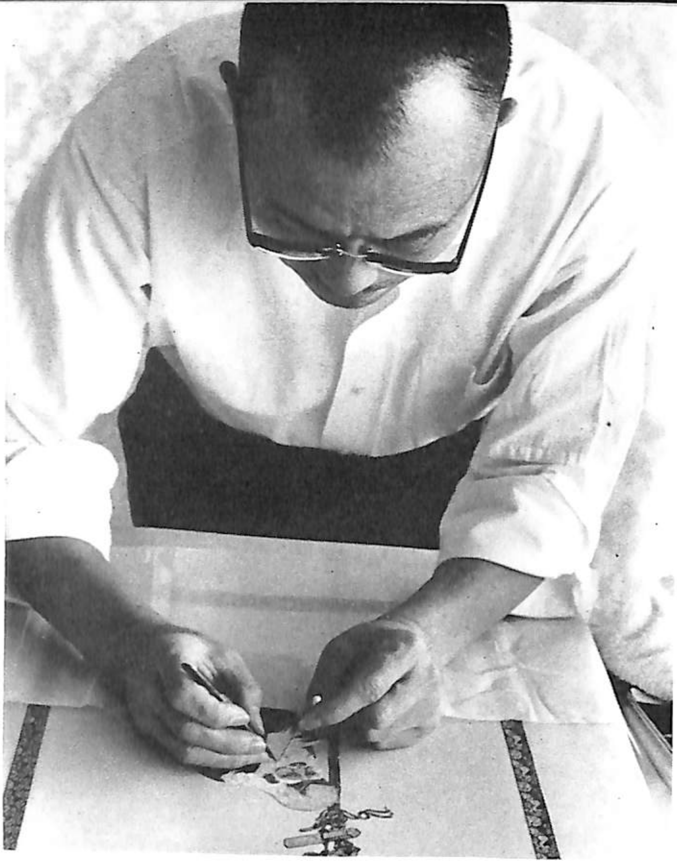
60mm Macro-Elmarit-R f/2.8 lens

Close-up adaptor

60mm Macro-Elmarit-R f/2.8

The 60mm MACRO-ELMARIT-R is the newest in the series of other outstanding Leicaflex SL lenses. Although designed for close-up photography it functions also as a universal lens. A steep helical thread permits focusing from infinity to 1:2. With the addition of an intermediate ring it focuses from 1:2 to 1:1 (life size). A reproduction ratio scale is engraved next to the combination feet-meter scale. The Leicaflex SL through-the-lens metering system automatically compensates for exposure increase factors. Measuring $2\frac{5}{8}''$, the six element lens has a 39° angle of view, half and full click stops, and a minimum aperture of f/22, a built-in lens hood and an automatic diaphragm throughout the full range from infinity to 1:1. A Series VIII filter can be used in conjunction with an accessory lens hood (Cat. No. 12514). The smallest object field, with the intermediate ring, is 24 x 36mm; without the ring, 48 x 72mm. The intermediate ring cannot be used with any other lens.

The lens (Cat. No. 11203) is $465. Read how the lens performs in David Douglas Duncan's article on pages 24 through 27.



Chinese Artist Shueh Shao-Tang

I have recently had the opportunity to use an exceptional lens—the Leitz 60mm Macro-Elmarit-R. Although designed apparently for regular macro-detail work, it could well become a general-purpose lens of great flexibility due to its focal length and surprising speed. The photographs on these pages of Chinese artist Shueh Shao-Tang and his work were taken with this lens.

DAVID DOUGLAS DUNCAN

the new 60mm Macro-Elmarit-R f/2.8

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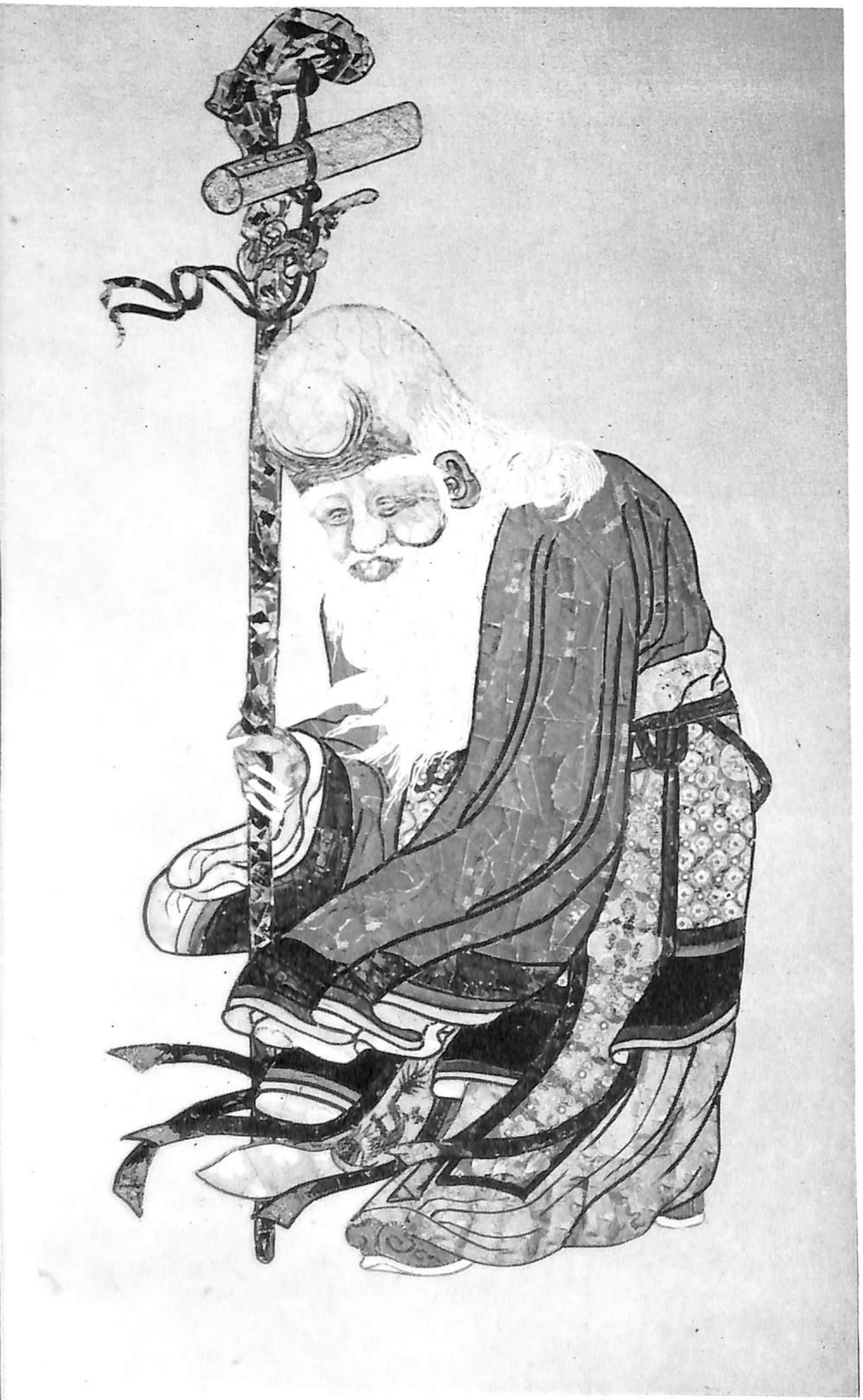


Shueh's story is interesting. He was born in Peking, China, in 1920. He came from a family of well-to-do silk merchants, but his own interest was in art. He studied under a master, Gau Lung Shiang, who made pictures from postage stamps—collages on silk.

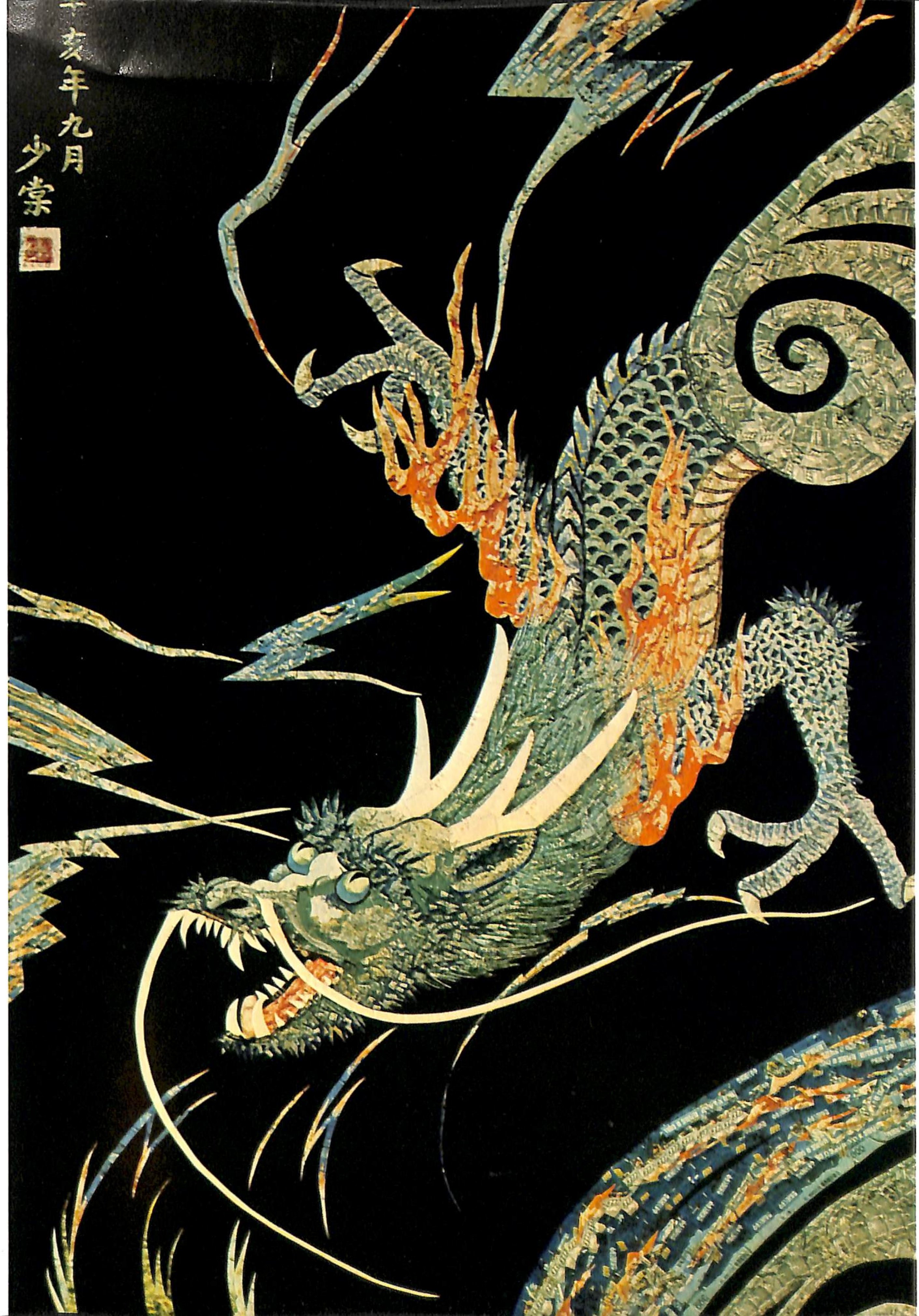
When the Chinese communists overran all of mainland China, Shueh (who had been conscripted into the Nationalist Army) fled to Taiwan as an officer in Chiang's forces. Seemingly he was not proper army material and was released. He tried to make a living as an artist, now being the only known "painter" working in stamp-collage techniques. By this time he was creating works made of almost microscopic fragments of stamps, glued upon silk—unlike Gau who had always used entire stamps as his source material.

Since he found it almost impossible to make a living as an artist on Taiwan, Shueh joined a training course, funded by the Japanese government, designed to fashion Chinese master chefs. After graduation, Shueh entered a competition to provide a chef for the Nationalist Chinese embassy in Ankara. He won and spent the next four years in Turkey, apparently always in the embassy kitchen with no time for his art. Early in 1971 the ambassador died and friends of mine heard about the great jobless chef in Ankara and brought him to Geneva where they live. They learned of his special talent and cleared a room in their home so he could once again make his pictures. He also cooks, of course, but his new employers have applied for the necessary permits so that he can remain in Europe as an artist. I met Shueh because he wanted to send a picture to Picasso for his 90th birthday, and did.

I have used the Macro-Elmarit-R lens not only for the extremely precise copy work of Shueh's stamp-collage paintings on these pages, but for "mood" pictures of countrysides and for fun shots of friends. It offers challenges and promise at a time when so much exploratory work is beckoning those of us who are no longer satisfied with "straight" picture images. (Unless, of course, straight photography tells it best.)

This lens has already proven itself to me, in both conventional and highly specialized shooting, although I've just started to explore its possibilities.

For technical specifications on the Macro-Elmarit-R see New Products page. ed.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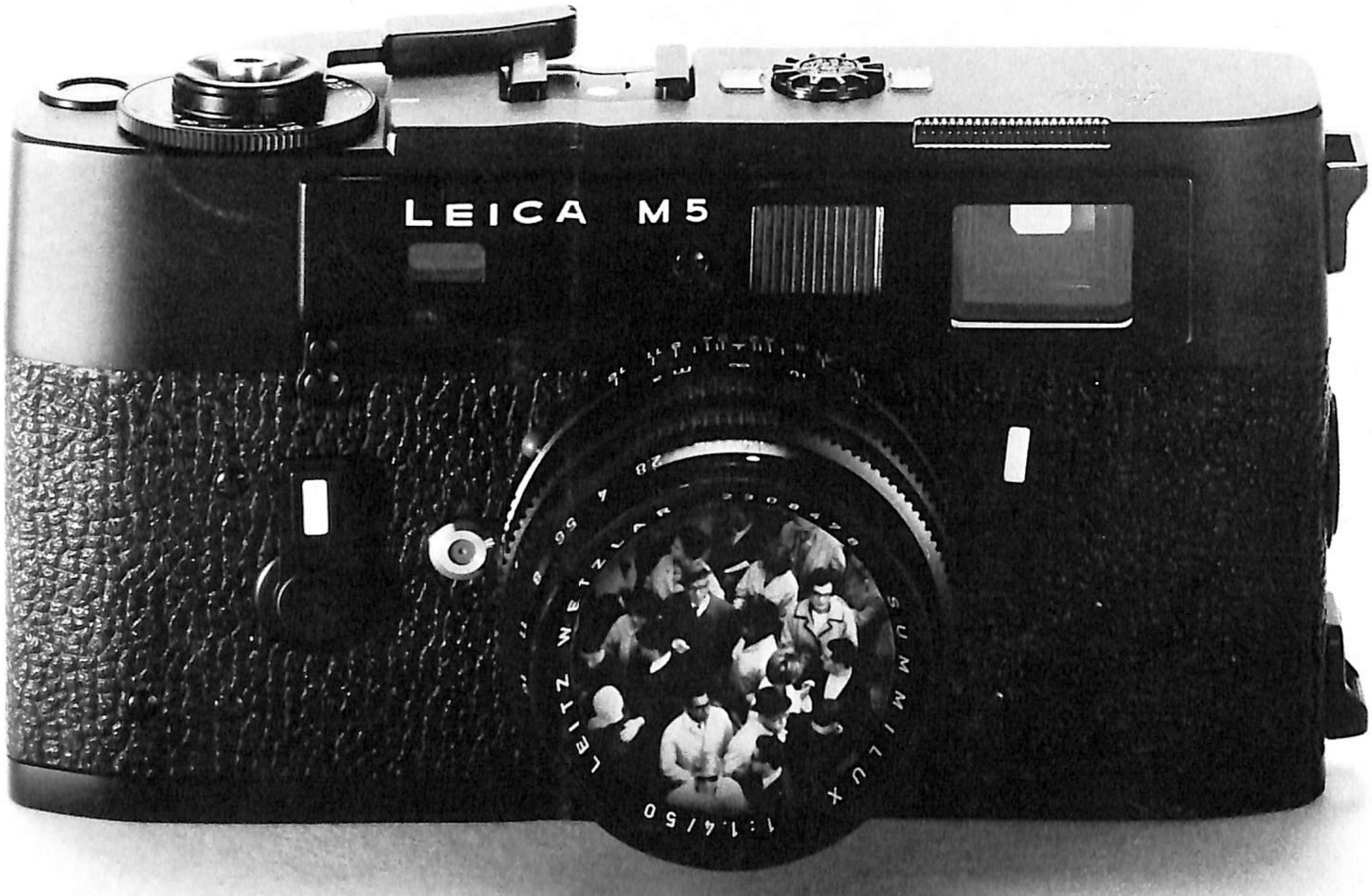

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